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10/719,525	11/21/2003	Raymond A. Milio	60,130-1926/00MRA0585	3378
26096	7590	02/06/2006	EXAMINER	
CARLSON, GASKEY & OLDS, P.C. 400 WEST MAPLE ROAD SUITE 350 BIRMINGHAM, MI 48009			SY, MARIANO ONG	
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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/719,525  
Filing Date: November 21, 2003  
Appellant(s): MILIO ET AL.

**MAILED**

**FEB 03 2006**

**Technology Center 2600**

\_\_\_\_\_  
Attorney William S. Gottschalk  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed December 12, 2005 appealing from the  
Office action mailed May 9, 2005.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishibashi et al. (JP-8-67108).

Re-claims 1 and 2 Ishibashi et al. disclosed, as shown in fig. 1-5, an axle comprising: an axle housing 2 including a surface; a cover 12 having generally dome-shaped portion having a first thickness, said dome-shaped portion terminating in a perimeter edge having a second thickness greater than said first thickness, said perimeter edge including a height extending from said surface (start of curvature of radius toward the surface of item "2") greater than said first thickness, wherein said perimeter edge provides a weld surface; and a weld bead securing said perimeter edge to said axle housing; wherein said second thickness is up to approximately twice said first thickness.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishibashi et al. in view of Pringle (U.S. Patent Number 4,234,120).

Re-claims 3 and 4 Ishibashi et al. fails to disclose wherein said dome-shaped portion includes a plurality of reinforcing ribs protrude and arrange radially about said dome-shaped portion.

Pringle teaches, as shown in fig. 1-2, reinforcing ribs 50 protrude and arrange radially about axle cover 13, see col. 3, lines 43-46.

It would have been obvious to one of ordinary skill in the art to have merely utilized the known reinforcing ribs into the axle housing cover of Ishibashi et al., in view of the teaching of Pringle, in order to add strength and support to the cover.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishibashi et al. in view of Jones (U.S. Patent Number 3,715,936).

Re-claim 8 Isibashi et al. failed to disclose a recessed boss with an opening.

Jones discloses, as shown in fig. 1, an axle cover 3 having a recessed boss with an opening.

In the amendment to the specification par. [21] by applicant "that the carrier assembly 27 installed on the boss 26 is known arrangement in the art". Therefore to mount the carrier assembly on the boss will be a matter of design choice. It would have been obvious to one of ordinary skill in the art to modify the cover of Isibashi et al. having a recessed boss with an opening, as taught by Jones, by mounting the carrier assembly on the well known alternative location on the recessed boss of the cover.

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8. Claims 9 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishibashi et al. (JP-8-67108) in view of Metals Handbook, 8<sup>th</sup> Edition, Welding and Brazing, page 270, fig. 27.

Reclaims 9 and 18 Ishibashi et al. discloses, as shown in fig. 1-5, an axle housing cover for securing to an axle housing 2 comprising: a generally dome-shaped portion having a first thickness, said dome-shaped portion terminating in a terminal end for engaging axle housing, said dome-shaped portion including an outer perimeter edge adjacent to said terminal end and having a second thickness different than said first thickness and the outer perimeter edge for receiving a weld bead securing the cover to the axle housing.

However Ishibashi et al. fails to disclose said outer perimeter edge lying within a boundary tangential to said dome-shaped portion immediately adjacent to said outer perimeter edge.

Metals Handbook, page 270, fig. 27 teaches a hemisphere having an outer perimeter edge lying within a boundary tangential to dome-shaped portion immediately adjacent to said outer perimeter edge, wherein the outer perimeter edge can provide a weld surface.

One of ordinary skill in the art would modify the cover Ishibashi et al., as taught by Metals Handbook, page 270, fig. 27, is a matter of design choice and an alternate equivalent of a known terminal end of a dome-shaped cover depending upon space for welding the cover to the axle housing in order to strengthen the welded joint.

Reclaim 19 Ishibashi et al. discloses, as shown in fig. 1-5, an axle housing cover comprising: a generally dome-shaped portion having a first thickness, said dome-shaped portion terminating in a terminal end for engaging axle housing, said dome-shaped portion including an outer perimeter edge adjacent to said terminal end and having a second thickness different than said first thickness, said perimeter edge for receiving a weld bead securing the cover to the axle housing.

However Ishibashi et al. fails to disclose said outer perimeter edge adjacent to the terminal end without extending radially outwardly from said dome-shaped portion.

Metals Handbook, page 270, fig. 27, teaches a hemisphere having an outer perimeter edge adjacent to a terminal end extending radially inwardly from the dome-shaped portion and a terminal end thickness greater than the thickness of the dome-shaped wall wherein the outer perimeter edge can provide a weld surface.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the terminal end by extending radially inwardly instead of radially outwardly in view of the teaching of Metals Handbook, page 270, fig. 27, in order to strengthen the welded joint for thicker welds. Since it had been held that a mere reversal of the essential parts of a device involves routine skill in the art. In re Einstein, 8 USPQ 167.

Reclaim 20 Ishibashi et al. discloses, as shown in fig. 1-5, wherein the second thickness is greater than said first thickness, said second thickness having a height (start of curvature of radius toward the surface of item "2") greater than said first thickness.

**(10) Response to Argument**

Re-claim 1, Appellant recited that "Ishibashi discloses a dome having a first thickness that is equal to the height. Claim 1 specifies that the height h is greater than the first thickness x. Ishibashi disclosed in fig. 3 a height which includes the distance (height h) measured from the radius of curvature extending from outer perimeter of cover 12 down towards body 2 is greater than the first thickness which is the thickness of cover 12.

Re-claim 2 recites " wherein said second thickness is up to approximately twice said first thickness. Ishibashi disclosed in fig. 3 a second thickness that includes the wall thickness of cover 12 and any point on the radius of curvature extending away from the outer perimeter of the cover can be read as up to approximately twice the first thickness which is the thickness of the cover 12.

Re-claims 3 and 4 Appellant argued that "In fact, as stated by the Examiner in paragraph four of the specification, industry practice is to provide a cover that is too thick. Thus, reinforcing ribs would be unnecessary to the already unnecessary thick dome". Nowhere in the office action or prior art reference does the Examiner disclosed "In fact, as stated by the Examiner in paragraph four of the specification, industry practice is to provide a cover that is too thick. Thus, reinforcing ribs would be unnecessary to the already unnecessary thick dome".

Examiner recited in par. 6 in Final office action dated 5/9/2005 that Pringle (US 4,234,120) teaches in fig. 1-2 reinforcing ribs 50 protrude and arrange radially about axle cover 13 (see col. 3, lines 43-46). Since Ishibashi and Pringle are both from

the same field of endeavor (axle housing), it would have been obvious to one of ordinary skill in the art to modify the cover of Ishibashi with known reinforcing ribs, as taught by Pringle, in order to add strength and support to the cover, (Pringle, col. 3, lines 43-46).

Re-claim 8 Appellant recited "wherein said dome-shaped portion includes a recessed boss with an opening receiving a carrier". Appellant argued that "Ishibashi does not disclose a carrier or a recessed boss; that the element in Jones (US 3,715,936) is not a carrier but is a plug; and that Ishibashi does not need an access port as the element 17 and its associated carrier may be removed to provide access". Accordingly, the "access port" of Jones provides no benefit.

Examiner recited in Final office action dated 5/9/2005 par. 7. In the amendment to the specification par. [21] dated Mar. 9, 2005 by appellant "that the carrier assembly 27 installed on the boss is known arrangement in the art". Therefore to mount the carrier assembly on the well known alternate location on the recessed boss of the cover is a matter of design choice. It would have been obvious to one of ordinary skill in the art to modify the cover of Ishibashi with a recessed boss with an opening, as taught by Jones, is a matter of design choice of an old and well known arrangement as disclosed by the Appellant in par. [21] of the specification.

Re-claims 9 and 18-20, Appellant argued that "there is no motivation or suggestion to one of ordinary skill in the art to modify Ishibashi with the teaching of the Metals Handbook and, therefore, the combination is improper". Ishibashi disclosed a dome-shaped cover with a flanged end which is similar to the dome-shaped cover of

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Appellant, as shown in figures 4 and 5. However Ishibashi failed to disclose the outer perimeter edge lying within a boundary tangential to said dome-shaped portion immediately to said perimeter edge. Metals Handbook teaches a hemisphere having an outer perimeter edge lying within a boundary tangential to dome-shaped portion immediately adjacent to the outer perimeter edge and with a terminal end thicker than the wall thickness of the dome-shaped portion. One of ordinary skill in the art would modify the cover of Ishibashi having an outer perimeter edge lying within a boundary tangential to dome-shaped portion immediately adjacent to the outer perimeter edge and with a terminal end thicker than the wall thickness of the dome-shaped portion, as taught by Metals Handbook, is a matter of design choice and an alternate equivalent of an old and known terminal end of a dome-shaped portion, in order to strengthen the welded joint. Since a terminal end thicker than the wall thickness of the dome-shaped portion will add strength to a full penetration weld, and thus provide a smooth welded joint and minimize wrinkle to the outer circumferential surface of the terminal end of the dome-shaped portion.

The terminal end of Ishibashi (similar to Appellant figures 4 and 5) are mere reversal of the flange with the terminal end of the dome-shaped portion having a lip facing inward as disclosed by Metals Handbook.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

*msy* M. Sy

January 30, 2006

Conferees:

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1/30/06